OhioEPA

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

March, 27, 2015

ELECTRONIC MAIL

Ms. Shari Kolak
Remedial Project Manager
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

RE: Troy Well Field Unknown Source
Remediation Reports
Remedial Response
Miami County
555001353

Subject: Ohio EPA Review: Draft Remedial Alternatives Screening Technical Memorandum for East Troy Contaminated Aquifer Site, February 23, 2015

Dear Ms. Kolak:

On February 24, 2015, the Ohio Environmental Protection Agency (Ohio EPA) Division of Environmental Response and Revitalization, electronically received the Draft Remedial Alternatives Screening Technical Memorandum (the "Memo") submitted by SulTRAC, on behalf of U.S. EPA, for the East Troy Contaminated Aquifer Site (ETCA) located in Troy, Miami County, Ohio. Ohio EPA is providing the following comments to assist in a more complete document.

If you have any questions or would like to meet to discuss the comments, please contact me at (937) 285-6456 or madelyn.smith@epa.ohio.gov.

Sincerely,

Madelyn Smith
Site Coordinator
Division of Environmental Response and Revitalization

Enclosure

ec: Guy Montfort, Tetra Tech
Erin LeGalley, DERR-CO
Allison Reed, DDAGW-SWDO

MS/bp

General Concerns

1. Because contamination is impacting a public water supply (PWS), Ohio EPA prefers that contamination be intercepted/remediated before reaching the PWS wells. The continued detection of Chemicals of Concern (COCs) will impact siting of future PWS wells for the city of Troy.

2. Vapor intrusion (VI) mitigation measures are included as remedial alternatives (section 3.3, page 49). Ohio EPA does not consider vapor mitigation to be a final remedy because it is expected that ground water will be fully restored. Ohio EPA does agree, however, that additional VI mitigation (whether it be preemptive, or based on additional sampling) is necessary at the site. We request that the VI remediation sections specify that, while it is necessary to evaluate the VI pathway in the interim, the final remedy for the VI pathway is the restoration of soils to levels ~~that will not leach to ground~~ water and the restoration of ground water to levels that will not pose a vapor intrusion threat.

3. The use of the term "former dry cleaner property" when referring to the residential plume source area is confusing throughout the document because there are two other former dry cleaner areas (one at the Spinnaker parking lot and one at 432 East Main Street). Please consider changing the reference to better identify the residential plume source area.

Specific Comments

1. Section 1.2.4.1, page 16-17 and section 2.2, page 35 discusses risks posed by soil contamination and remedial action objectives (RAOs) for soil contamination. These sections do not discuss the soil source at the residential plume. The remedial alternatives evaluated target the residential plume source soils, however, the introductory sections do not indicate that there is a risk that needs to be evaluated. While it may be that soil samples were not able to be collected at the residential plume source, it should still be discussed in these sections as its absence adds confusion to whether or not the area needs to be mitigated.

2. Section 1.2.5.1, page 30, bullet points 1-3 – the first 3 bullet points conclude that the East Water Street Plume upgradient area, receptor-specific cumulative soil cancer risks (based on surface and sub-surface soil) are less than or within Ohio EPA's risk range. Please clarify these bullets by specifying that these statements refer to the soil direct-contact pathway only.

3. Section 2.2 proposes protection of ground water preliminary remedial goals (PRGs) at 100 ug/kg for perchloroethene (PCE), trichloroethene (TCE) and 1,1,2-trichloroethane (TCA). These numbers were derived by assuming soil concentrations 20 times greater than the maximum contaminant level (MCL) to account for dilution and attenuation. 100 ug/kg is two orders of magnitude greater

than the protection of ground water regional screening levels (RSLs) defined by US EPA for the COCs. Please provide additional information as to why 100 ug/kg is an appropriate PRG for soils.

The document suggests that site-specific leaching values based on Synthetic Precipitation Leaching Procedure (SPLP) analysis should be used to determine site-specific protection of ground water soil concentrations. Ohio EPA does not believe that the SPLP is an appropriate method to calculate soil leaching to ground water. A brief discussion of the SPLP analysis is provided on page 36, however, additional information should be provided on what this analysis would entail and whether it is appropriate for the site. Is additional sampling required? How will a site-specific dilution factor be calculated? Consideration should be given to determining a site-specific leaching value using other methods such as the partitioning equation.

4. Section 2.5.1, page 43 discusses estimations of contaminated volumes of soil. There is no discussion of the estimated contaminated soil for the residential plume source. It is necessary to estimate the volume of contaminated soils for remediation technologies, please provide an estimation of the contamination soils for the residential plume.

5. Section 2.5.3, page 45:

    a. The area of potential concern for VI was estimated based on historical information and refined during the Remedial Investigation (RI). Ohio EPA recommends revising this statement because, as discussed in previous Ohio EPA comments during the RI, the extent of VI impacts does not necessarily coincide with the upgradient ground water plume boundaries.

    b. Ohio EPA recommends adding temporal changes in indoor air concentrations and the rate of VI (in addition to temporal changes in ground water concentrations), and preferential pathways resulting from subsurface utilities (in addition to preferential pathways as the result of soil conditions or cracks and openings in the structures themselves) to the list of uncertainties in paragraph 1 of this section.

    c. This section provides an effort to quantify the number of buildings likely containing indoor air concentrations and sub-slab vapor in excess of PRGs. In the final paragraph of the section, it is not clear what is meant by *"approximately 115 homes will be addressed by the site remedy"* – does the term "site remedy" refer to VI mitigation measures (e.g. sub-slab depressurization systems) or does the term refer to ground water restoration? Ohio EPA agrees that it is highly likely that additional homes will need interim remedies until ground water is restored.

6. Section 4.1.3.1 and section 5.1.2 discuss a clay or soil cap. In the Feasibility Study (FS), please consider that this alternative may be difficult to implement in the areas of elevated soil contamination in the Hobart and Spinnaker areas shown on Figure 2-1. Except for exposure area 5 (EA5), these areas likely are used as parking lots or experience more vehicle traffic. A soil/clay cap may not withstand the high traffic areas. The only potential area where this remedy may be applicable is EA5, but it is along the top edge of the levee and consideration would need to be given to construction and maintenance in that area and whether this would be allowed by flood control agencies.

7. Section 4.2.3.1, page 64 lists pumping as a process option to contain contaminated ground water. This option is not listed on Figure 4-2.

8. Section 4.2.6.2, page 68-69 lists carbon adsorption as a ground water ex-situ treatment option and states that this technology will be retained for further evaluation in the FS. However, it is not listed on the retained process option table on page 71 and is not identified as a retained process option on Figure 4.2.

9. Sections 4.2.7.1 (Discharge to Injection Wells), page 69 and 4.2.7.2 (Discharge to Surface Water), page 70 do not state whether or not the process options will be retained.

10. Section 4.2.7.1, page 69 discusses discharge of treated water into injection wells. In the FS, consideration should be given as to whether discharge to injection wells is a reasonable option given the proximity to PWS wells. Depending on the treatment process and details, this could change the ground water chemistry and potentially impact the city of Troy's treatment process. Ohio EPA recommends that an evaluation is provided in the FS as to whether this would impact the PWS. In addition, Ohio EPA's Underground Injection Control program should be contacted regarding the potential use of these wells.

11. Section 5.1.4, page 83-86, discusses soil alternative S-4, which includes soil vapor extraction adjacent to the residential plume source area, excavation of contaminated soil from currently unpaved areas at the Hobart and Spinnaker properties, and retention of concrete or asphalt as a cap at areas on Hobart and Spinnaker. Ohio EPA does not consider asphalt a viable capping material. Ohio EPA's Technical Guidance Compendium entitled, "Asphalt Covers to Prevent Leaching at Industrial Sites," August 18, 2003, provides more information on what would be acceptable capping material when paired with an operations and maintenance plan.

12. Section 5.1.4.1, page 83 discusses the effectiveness of soil alternative S-4 and states that contaminated soil would be extracted from the former dry cleaner property. This appears to be an error and should reference soil vapor extraction. It also appears that the mention of "monitored natural recovery" is an error as well.

13. Alternatives 5.2.2, page 87, 5.2.3, page 88, 5.2.6, page 92, and 5.2.7, page 93 propose monitored natural attenuation (MNA) as a ground water remedy once active remediation has reduced concentrations to 5 to 20 times their remediation goals. MNA would rely on biodegradation, dilution and dispersion processes. For evaluating MNA, please consider that currently the aquifer shows little to no degradation of contaminants occurring and biodegradation would likely need some enhancements. In addition, Ohio EPA does not encourage dilution or dispersion as attenuation remedies, which would be the main attenuation processes taking place if conditions are not conducive to biodegradation. Lastly, the risk to the PWS wellfield should be evaluated as a part of these alternatives.

14. Section 4.2.4.2, page 73-74 and alternatives 5.2.4, page 89 and 5.2.7, page 93 provide information on in-situ chemical oxidation (ISCO) but note that there is concern when using this technology in the vicinity of PWS wells. Alternative 5.2.7 is proposed for the East Water Street plume, so it would be in close proximity to the PWS wells. In addition, it would be difficult to implement for multiple reasons (urban setting, source area access, cost) and additional data would have to be collected regarding the nutrient demand. It is also important to note that ISCO often requires multiple events. Please carefully consider the likelihood of success/effectiveness of this alternative in the FS.

    In addition, similar to alternatives 5.2.2 and 5.2.3, MNA is proposed for these alternatives as a remedy once active remediation has reduced concentrations to 5 to 20 times their remediation goals. However, it is likely that the ISCO would prevent biodegradation from occurring, and MNA would rely on dilution and dispersion processes. As noted above, Ohio EPA does not encourage dilution or dispersion as attenuation remedies, which would be the main attenuation processes taking place if conditions are not conducive to biodegradation. Lastly, the risk to the PWS wellfield should be evaluated as a part of this alternative.

15. Alternatives 5.2.2, page 87, 5.2.3, page 88, 5.2.4, page 89 propose to treat the plume with enhanced reductive dechlorination (ERD), in-situ chemical reduction (ISCR), or ISCO. In the FS, please evaluate how the depth of the contamination in the residential area plume would impact these remedies. Remedy effective for deep sources?

16. Appendix A, Calculation of Risk-Based Remediation Goals for Soil, Groundwater, and Indoor Air, page 15 of the Memo: On page 15 of the Memo, the text states that the presence of chemicals not likely related to the sources of the chlorinated Volatile Organic Compounds (VOCs) was evaluated during the Phase I of the RI to determine if other chemicals were present at concentrations high enough to affect the calculation of human health or ecological risk at the site and thus would be considered COCs. However, Appendix A states that trihalomethanes will not be considered COCs even though they are present at concentrations high enough to affect the calculation of human health risk at the site. Please explain why trihalomethanes are not being retained as COCs.

17. Appendix B, Preliminary Identification of Applicable or Relevant and Appropriate Requirements: Ohio EPA has identified preliminary Applicable or Relevant and Appropriate Requirements (ARARs) on the attached Microsoft Excel file. Some of the state ARARs listed in Appendix B are also in the provided Excel file, for simplicity, Ohio EPA is providing an all-inclusive list of the state ARARs specific to ETCA. In addition, there were numerous state ARARs identified in Appendix B that had incorrect citations (Ohio Revised Code was referenced when the requirement is found under the Ohio Administrative Code).

ODNR		1501:21-13	10-14	ADDITIONAL DESIGN REQUIREMENTS FOR DIKES AND LEVEES	PRESENTS DESIGN REQUIREMENTS SPECIFIC TO DIKES AND LEVEES. INCLUDES CRITERIA SUCH AS DESIGN STORM AND FLOOD AND FREEBOARD REQUIREMENTS.
ODNR		1501:21-15	06	OPERATION, MAINTENANCE AND INSPECTIONS	PRESENTS THE MINIMUM INFORMATION REQUIRED IN A PLAN ADDRESSING THE OPERATION, MAINTENANCE AND INSPECTION OF DAMS, DIKES AND LEVEES.
ODNR		1501:21-21	03-04	DEFICIENCY AND O&M OF DAMS, DIKES AND LEVEES	DAMS, DIKES AND LEVEES MUST BE OPERATED SAFELY. REPAIRS OR OTHER REMEDIAL MEASURES SHALL BE PERFORMED ON DAMS, DIKES AND LEVEES AS NECESSARY TO SAFEGUARD LIFE, HEALTH OR PROPERTY.
ODNR		1501:21-5	02-06	DESIGN REQUIREMENTS FOR DAMS, DIKES AND LEVEES	SPECIFIES MINIMUM INFORMATION REQUIRED DURING DESIGN FOR OHIO DNR TO DETERMINE ADEQUACY OF PROPOSED DAM, DIKE OR LEVEE. INCLUDES DESIGN REPORTS, PLANS AND
ODNR		1501:31-23	01, A-B	LIST OF ENDANGERED ANIMAL SPECIES	LIST OF OHIO ANIMAL SPECIES CONSIDERED ENDANGERED.
ODNR		1501-18-1	03, A	LIST OF ENDANGERED PLANT SPECIES	PLANT SPECIES CONSIDERED ENDANGERED IN OHIO
DSW		3745-1-03		ANALYTICAL AND COLLECTION PROCEDURES	SPECIFIES ANALYTICAL METHODS AND COLLECTION PROCEDURES FOR SURFACE WATER DISCHARGES.
DSW		3745-1-04	A,,B,C,D,E	THE "FIVE FREEDOMS" FOR SURFACE WATER	ALL SURFACE WATERS OF THE STATE SHALL BE FREE FROM: A) OBJECTIONABLE SUSPENDED SOLIDS. B)FLOATING DEBRIS, OIL AND SCUM. C) MATERIALS THAT CREATE A NUISANCE. D) TOXIC, HARMFUL OR LETHAL SUBSTANCES. E) NUTRIENTS THAT CREATE NUISANCE GROWTH
DSW		3745-1-05	A-C	ANTIDEGRADATION POLICY FOR SURFACE WATER	PREVENTS DEGRADATION OF SURFACE WATER QUALITY BELOW DESIGNATED USE OR EXISTING WATER QUALITY. EXISTING IN STREAM USES SHALL BE MAINTAINED AND PROTECTED. THE MOST STRINGENT CONTROLS FOR TREATMENT SHALL BE REQUIRED BY THE DIRECTOR TO BE EMPLOYED FOR ALL NEW AND EXISTING POINT SOURCE DISCHARGES. PREVENTS ANY DEGRADATION OF STATE RESOURCE WATERS

} Specific to ETAP?

DSW		3745-1-06	A,B	MIXING ZONES FOR SURFACE WATER	(A) PRESENTS THE CRITERIA FOR ESTABLISHING NON-THERMAL MIXING ZONES FOR POINT SOURCE DISCHARGES (B) PRESENTS THE CRITERIA FOR ESTABLISHING THERMAL MIXING ZONES FOR POINT SOURCE DISCHARGES
DSW		3745-1-21		WATER USE DES FOR GREAT MIAMI RIVER	ESTABLISHES WATER USE DESIGNATIONS FOR STREAM SEGMENTS WITHIN THE GREAT MIAMI RIVER BASIN.
DSW		3745-1-34		WATER QUALITY CRITERIA FOR OHIO RIVER DRAINAGE BASIN	ESTABLISHES CRITERIA FOR SURFACE WATER IN OHIO RIVER DRAINAGE BASIN.
APC		3745-15-05	A-D	DE MINIMIS AIR CONTAMINANT SOURCE EXEMPTION	ESTABLISHES LIMITS BELOW WHICH AIR DISCHARGE PERMITS ARE NOT NEEDED
APC		3745-15-06	A1,A2	MALFUNCTION & MAINTENANCE OF AIR POLL CONTROL EQUIPMENT	ESTABLISHES SCHEDULED MAINTENANCE AND SPECIFIES WHEN POLLUTION SOURCE MUST BE SHUT DOWN DURING MAINTENANCE
APC		3745-15-07	A	AIR POLLUTION NUISANCES PROHIBITED	DEFINES AIR POLLUTION NUISANCE AS THE EMISSION OR ESCAPE INTO THE AIR FROM ANY SOURCES(s)) OF SMOKE, ASHES, DUST, DIRT, GRIME, ACIDS, FUMES, GASES, VAPORS, ODORS AND COMBINATIONS OF THE ABOVE THAT ENDANGER HEALTH, SAFETY OR WELFARE OF THE PUBLIC OR CAUSE PERSONAL INJURY OR PROPERTY DAMAGE. SUCH NUISANCES ARE PROHIBITED
APC		3745-17-08	A1,A2,B,D	EMISSION RESTRICTIONS FOR FUGITIVE DUST	ALL EMISSIONS OF FUGITIVE DUST SHALL BE CONTROLLED.
APC		3745-19-03	A,B,C,D	OPEN BURNING STANDARDS IN RESTRICTED AREAS	OPEN BURNING WITHOUT PRIOR AUTHORIZATION FROM OHIO EPA IS PROHIBITED.
APC		3745-21-09		VOC EMISSIONS CONTROL: STATIONARY SOURCES	ESTABLISHES LIMITATIONS FOR EMISSIONS OF VOLATILE ORGANIC COMPOUNDS FROM STATIONARY SOURCES.
HW		3745-270-03	A-D	DILUTION PROHIBITED AS A SUBSTITUTE FOR TREATMENT.	FORBIDS DILUTION AS A MEANS OF ACHIEVING LAND DISPOSAL RESTRICTION LEVELS
HW		3745-270-07	A-E	TESTING, TRACKING, AND RECORDKEEPING REQUIREMENTS	TESTING, TRACKING, AND RECORDKEEPING REQUIREMENTS FOR GENERATORS, TREATERS, AND DISPOSAL FACILITIES.

CATEGORY	ORC	OAC	PARAGRAPH	CAPTION	TEXT
ODNR	1517.16			CHANNEL MODIFICATIONS MUST BE APPROVED	NO GOVERNMENTAL BODY MAY MODIFY THE CHANNEL OF ANY WATERCOURSE WITHIN A WILD, SCENIC OR RECREATIONAL RIVER AREA OUTSIDE THE LIMITS OF A MUNICIPAL CORPORATION WITHOUT APPROVAL FROM THE DIRECTOR OF ODNR
ODNR	1518.02			ENDANGERED PLANT SPECIES	PROHIBITS REMOVAL OR DESTRUCTION OF ENDANGERED PLANT SPECIES (SOME PRIVATE PROPERTY EXCEPTIONS).
ODNR	1521.06			CONSTRUCTION PERMITS FOR DAMS, DIKES AND LEVEES	NO DAM MAY BE CONSTRUCTED FOR THE PURPOSE OF STORING, CONSERVING OR RETARDING WATER, OR FOR ANY OTHER PURPOSE, NOR SHALL ANY DIKE OR LEVEE BE CONSTRUCTED FOR THE PURPOSE DIVERTING OR RETAINING FLOOD WATER WITHOUT A PERMIT.
ODNR	1521.062		A-G	MONITORING, MAINTENANCE & OPERATION (DAMS, DIKES, LEVEES)	DAMS, DIKES AND LEVEES (AND ALL APPURTENANCES) SHALL MONITORED, MAINTAINED AND OPERATED SAFELY IN ACCORDANCE WITH STATE RULES, TERMS AND CONDITIONS OF THE PERMIT AND OTHER REQUIREMENTS ISSUED PURSUANT TO THIS SECTION OR SECTION 1521.06 OF THE ORC
ODNR	1531.25			ENDANGERED ANIMAL SPECIES	PROHIBITS REMOVAL OR DESTRUCTION OF ENDANGERED ANIMAL SPECIES
APC	3704.05		A-I	PROHIBITS VIOLATION OF AIR POLLUTION CONTROL RULES	PROHIBITS EMISSION OF AN AIR CONTAMINANT IN VIOLATION SEC. 3704 OR ANY RULES, PERMIT, ORDER OR VARIANCE ISSUED PURSUANT TO THAT SECTION OF THE ORC.

HW	3734.02		(H)	"DIGGING" WHERE HAZ OR SOLID WASTE FACILITY WAS LOCATED	FILLING, GRADING, EXCAVATING, BUILDING, DRILLING OR MINING ON LAND WHERE HAZARDOUS WASTE OR SOLID WASTE FACILITY WAS OPERATED IS PROHIBITED WITHOUT PRIOR AUTHORIZATION FROM THE DIRECTOR OF THE OHIO EPA.
HW APC	3734.02		(I)	AIR EMISSIONS FROM HAZARDOUS WASTE FACILITIES	NO HAZARDOUS WASTE FACILITY SHALL EMIT ANY PARTICULATE MATTER, DUST, FUMES, GAS, MIST, SMOKE, VAPOR OR ODOROUS SUBSTANCE THAT INTERFERES WITH THE COMFORTABLE ENJOYMENT OF LIFE OR PROPERTY OR IS INJURIOUS TO PUBLIC HEALTH.
DSIWM	3734.03			PROHIBITS OPEN DUMPING OR BURNING	PROHIBITS OPEN BURNING OR OPEN DUMPING OF SOLID WASTE OR TREATED OR UNTREATED INFECTIOUS WASTE.
APC DSW	3767.13			PROHIBITION OF NUISANCES	PROHIBITS NOXIOUS EXHALATIONS OR SMELLS AND THE OBSTRUCTION OF WATERWAYS.
DSW	3767.14			PROHIBITION OF NUISANCES	PROHIBITION AGAINST THROWING REFUSE, OIL, OR FILTH INTO LAKES, STREAMS, OR DRAINS.
DERR	5301.00		.80 to .92	UNIFORM ENVIRONMENTAL COVENANTS ACT	STANDARDS FOR ENVIRONMENTAL COVENANTS
DSW	6101.19			CONSERVANCY DISTRICTS	BOARD OF DIRECTORS OF A CONSERVANCY DISTRICT MAY MAKE AND ENFORCE RULES AND REGULATIONS PERTAINING TO CHANNELS, DITCHES, PIPES, SEWERS, ETC.
DSW	6111.04			ACTS OF POLLUTION PROHIBITED	POLLUTION OF WATERS OF THE STATE IS PROHIBITED.
DSW	6111.07		A,C	WATER POLLUTION CONTROL REQUIREMENTS - DUTY TO COMPLY	PROHIBITS FAILURE TO COMPLY WITH REQUIREMENTS OF SECTIONS 6111.01 TO 6111.08 OR ANY RULES, PERMIT OR ORDER ISSUED UNDER
DSW	6111.04.2			RULES REQUIRING COMPLIANCE WITH NATIONAL EFFLUENT STDS	ESTABLISHES REGULATIONS REQUIRING COMPLIANCE WITH NATIONAL EFFLUENT
ODNR		1501:21-11	03-05	PREDESIGN INVESTIGATIONS (DAMS, DIKES, LEVEES)	PRESENTS PREDESIGN REQUIREMENTS FOR DAMS, DIKES AND LEVEES. INCLUDES ON-SITE CONSTRUCTION MATERIAL DATA, SURVEYS AND HYDROLOGIC AND HYDRAULIC INVESTIGATIONS.
ODNR		1501:21-13	02-08	ADDITIONAL DESIGN REQUIREMENTS FOR DAMS	PRESENTS DESIGN REQUIREMENTS SPECIFIC TO DAMS. INCLUDES SUCH CRITERIA AS DESIGN STORM AND FLOOD, SPILLWAY DESIGN, FREEBOARD REQUIREMENTS, ETC.

UIC		3745-34-34		MECHANICAL INTEGRITY	SPECIFIES REQUIREMENTS TO BE MET TO ENSURE MECHANICAL INTEGRITY OF WELLS.
HW		3745-50-44	A	PERMIT INFO REQUIRED FOR ALL HAZ WASTE FACILITIES	ESTABLISHES THE SUBSTANTIVE HAZARDOUS WASTE PERMIT REQUIREMENTS NECESSARY FOR OHIO EPA TO DETERMINE FACILITY COMPLIANCE. INCLUDES INFORMATION SUCH AS FACILITY DESCRIPTION, WASTE CHARACTERISTICS, EQUIPMENT DESCRIPTIONS, CONTINGENCY PLAN, FACILITY LOCATION, TOPOGRAPHIC MAP, ETC.
HW		3745-50-44		PERMIT INFO REQ FOR ALL HAZ WASTE LAND DISP FACILITIES	ESTABLISHES THE SUBSTANTIVE HAZARDOUS WASTE LAND DISPOSAL PERMIT REQUIREMENTS NECESSARY FOR OHIO EPA TO DETERMINE ADEQUATE PROTECTION OF THE GROUND WATER. INCLUDES INFORMATION SUCH AS GROUND WATER MONITORING DATA, INFORMATION ON INTERCONNECTED AQUIFERS, PLUME(S) OF CONTAMINATION, PLANS AND REPORTS ON GROUND WATER MONITORING PROGRAM, ETC. MANAGEMENT OF SOLID/HAZARDOUS WAS
HW		3745-50-58	E,I,J	CONDITIONS APPLICABLE TO ALL PERMITS	ESTABLISHES GENERAL PERMIT CONDITIONS APPLIED TO ALL HAZARDOUS WASTE FACILITIES IN OHIO. INCLUDES CONDITIONS SUCH AS OPERATION AND MAINTENANCE, SITE ACCESS,
HW		3745-52-11	A-D	EVALUATION OF WASTES	ANY PERSON GENERATING A WASTE MUST DETERMINE IF THAT WASTE IS A HAZARDOUS WASTE (EITHER THROUGH LISTING OR BY
HW		3745-52-12	A-C	GENERATOR IDENTIFICATION NUMBER	A GENERATOR MUST NOT STORE, TREAT DISPOSE OR TRANSPORT HAZARDOUS WASTES WITHOUT A GENERATOR NUMBER
HW		3745-52-20		HAZARDOUS WASTE MANIFEST - GENERAL REQUIREMENTS	REQUIRES A GENERATOR WHO TRANSPORTS OR OFFERS FOR TRANSPORTATION HAZARDOUS WASTE FOR OFF-SITE TREATMENT, STORAGE OR DISPOSAL TO PREPARE A UNIFORM HAZARDOUS WASTE MANIFEST
HW		3745-52-22		HAZARDOUS WASTE MANIFEST - NUMBER OF COPIES	SPECIFIES THE NUMBER OF MANIFEST COPIES TO BE PREPARED

HW		3745-270-09	A-D	SPECIAL RULES REGARDING CHARACTERISTIC WASTES	RULES APPLICABLE TO LAN D DISPOSAL OF CHARACTERISTIC WASTES
HW		3745-270-40	A-J	APPLICABILITY OF TREATMENT STANDARDS	DETAILED LISTING OF CHEMICAL SPECIFIC LAND TREATMENT STANDARDS OR REQUIRED TREATMENT TECHNOLOGIES.
HW		3745-270-42	A-D	TREATMENT STANDARDS EXPRESSED AS SPECIFIED TECHNOLOGIES	LISTS SPECIFIC TREATMENT TECHNOLOGIES REQUIRED FOR SPECIFIC WASTES
HW		3745-270-45	A-D	TREATMENT STANDARDS FOR HAZARDOUS DEBRIS	SPECIFIES TREATMENT TECHNOLOGIES AND PERFORMANCE STANDARDS FOR VARIOUS
HW		3745-270-48	A	UNIVERSAL TREATMENT STANDARDS	GIVES CONTAMINANT CHEMICAL SPECIFIC STANDARDS FOR LAND DISPOSAL
HW		3745-270-49	A-E	LAND DISPOSAL RESTRICTION FOR CONTAMINATED SOILS	SPECIFIES STANDARDS FOR SOIL TREATMENT
DSW		3745-3-04	A-D	PROHIBITED DISCHARGES	PLACES RESTRICTIONS ON DISCHARGES TO POTW'S THAT MAY HARM TREATMENT FUNCTIONS OR PASS THROUGH TO RECEIVING STREAM.
APC		3745-31-02	A,C,D	PERMIT TO INSTALL, GENERAL REQUIREMENTS	GENERAL REQUIREMENTS FOR PERMIT TO INSTALL AIR POLLUTION SOURCES
DSW		3745-32-05		WATER QUALITY CRITERIA FOR DECISION BY THE DIRECTOR	SPECIFIES SUBSTANTIVE CRITERIA FOR SECTION 401 WATER QUALITY CRITERIA FOR DREDGING, FILLING, OBSTRUCTING OR ALTERING WATERS OF
UIC		3745-34-06		PROHIBITION OF UNAUTHORIZED INJECTION	UNDERGROUND INJECTION IS PROHIBITED WITHOUT AUTHORIZATION FROM THE DIRECTOR.
UIC		3745-34-07		NO MOVEMENT OF FLUID INTO UNDERGROUND DRINKING WATER	THE UNDERGROUND INJECTION OF FLUID CONTAINING ANY CONTAMINANT INTO AN UNDERGROUND SOURCE OF DRINKING WATER IS PROHIBITED IF THE PRESENCE OF THAT CONTAMINANT MAY CAUSE A VIOLATION OF THE PRIMARY DRINKING WATER STANDARDS OR OTHER WISE ADVERSELY AFFECT THE HEALTH OF PERSONS
UIC		3745-34-09		REQUIREMENTS FOR WELLS INJECTING HAZARDOUS WASTE	SPECIFIES REQUIREMENTS FOR THE INJECTION OF HAZARDOUS WASTES UNDERGROUND. SEE 3745-34-08 FOR LIMITATIONS.6 OF THE ORC.
UIC		3745-34-26		CONDITIONS APPLICABLE TO ALL PERMITS	SPECIFIES MINIMUM CONDITIONS TO BE APPLIED TO ALL UNDERGROUND INJECTIONS.

HW		3745-54-18	A,B,C	LOCATION STANDARDS FOR HAZARDOUS WASTE T/S/D FACILITIES	RESTRICTS THE SITING OF HAZARDOUS WASTE FACILITIES IN AREAS OF SEISMIC ACTIVITY OR FLOODPLAINS.
HW		3745-54-31		DESIGN & OPERATION OF HAZARDOUS WASTE FACILITIES	HAZARDOUS WASTE FACILITIES MUST BE DESIGNED, CONSTRUCTED, MAINTAINED AND OPERATED TO MINIMIZE THE POSSIBILITY OF FIRE, EXPLOSION OR UNPLANNED RELEASE OF HAZARDOUS WASTE OR HAZARDOUS CONSTITUENTS TO THE AIR, SOIL OR SURFACE WATER WHICH COULD THREATEN HUMAN HEALTH OR THE ENVIRONMENT.
HW		3745-54-32	A,B,C,D	REQUIRED EQUIPMENT FOR HAZARDOUS WASTE FACILITIES	ALL HAZARDOUS WASTE FACILITIES MUST BE EQUIPPED WITH EMERGENCY EQUIPMENT, SUCH AS AN ALARM SYSTEM, FIRE CONTROL EQUIPMENT AND A TELEPHONE OR RADIO.
HW		3745-54-33		TESTING & MAINTENANCE OF EQUIPMENT; HAZ WASTE FACILITIES	ALL HAZARDOUS WASTE FACILITIES MUST TEST AND MAINTAIN EMERGENCY EQUIPMENT TO ASSURE PROPER OPERATION.
HW		3745-54-34		ACCESS TO COMMUNICATIONS OR ALARM SYSTEM; HAZ WASTE FAC	WHENEVER HAZARDOUS WASTE IS BEING HANDLED, ALL PERSONNEL INVOLVED SHALL HAVE IMMEDIATE ACCESS TO AN INTERNAL ALARM OR EMERGENCY COMMUNICATION DEVICE.
HW		3745-54-37	A,B	ARRANGEMENTS/ AGREEMENTS WITH LOCAL AUTHORITIES	ARRANGEMENTS OR AGREEMENTS WITH LOCAL AUTHORITIES, SUCH AS POLICE, FIRE DEPARTMENT AND EMERGENCY RESPONSE TEAMS MUST BE MADE. IF LOCAL AUTHORITIES WILL NOT COOPERATE, DOCUMENTATION OF THAT NON-COOPERATION SHOULD BE PROVIDED.
HW		3745-54-52	A-F	CONTENT OF CONTINGENCY PLAN; HAZ WASTE FACILITIES	HAZARDOUS WASTE FACILITIES MUST HAVE A CONTINGENCY PLAN THAT ADDRESSES ANY UNPLANNED RELEASE OF HAZARDOUS WASTES OR HAZARDOUS CONSTITUENTS INTO THE AIR, SOIL OR SURFACE WATER. THIS RULE ESTABLISHES THE MINIMUM REQUIRED INFORMATION OF SUCH A PLAN.
HW		3745-54-53	A,B	COPIES OF CONTINGENCY PLAN; HAZARDOUS WASTE FACILITIES	COPIES OF THE CONTINGENCY PLAN REQUIRED BY 3745-54-50 MUST BE MAINTAINED AT THE FACILITY AND SUBMITTED TO ALL LOCAL POLICE DEPARTMENTS, FIRE DEPARTMENTS, HOSPITALS LOCAL EMERGENCY RESPONSE TEAMS AND THE OHIO EPA.
HW		3745-54-54	A	AMENDMENT OF CONTINGENCY PLAN; HAZ WASTE FACILITIES	THE CONTINGENCY PLAN MUST BE AMENDED IF IT FAILS IN AN EMERGENCY, THE FACILITY CHANGES (IN ITS DESIGN, CONSTRUCTION, MAINTENANCE OR OPERATION), THE LIST OF EMERGENCY COORDINATORS CHANGE OR THE LIST OF EMERGENCY EQUIPMENT.

HW		3745-52-23		HAZARDOUS WASTE MANIFEST - USE	SPECIFIES PROCEDURES FOR THE USE OF HAZARDOUS WASTE MANIFESTS INCLUDING A REQUIREMENT THAT THEY BE HAND SIGNED BY THE GENERATOR
HW		3745-52-30		HAZARDOUS WASTE PACKAGING	REQUIRES A GENERATOR TO PACKAGE HAZARDOUS WASTE IN ACCORDANCE WITH U.S. DOT REGULATIONS FOR TRANSPORTATION OFF-
HW		3745-52-31		HAZARDOUS WASTE LABELING	REQUIRES PACKAGES OF HAZARDOUS WASTE TO BE LABELED IN ACCORDANCE WITH U.S.DOT REGULATIONS FOR OFF-SITE TRANSPORTATION.
HW		3745-52-32		HAZARDOUS WASTE MARKING	SPECIFIES LANGUAGE FOR MARKING PACKAGES OF HAZARDOUS WASTE PRIOR TO OFF-SITE TRANSPORTATION
HW		3745-52-33		HAZARDOUS WASTE PLACARDING	GENERATOR SHALL PLACARD HAZARDOUS WASTE PRIOR TO OFF-SITE TRANSPORTATION.
HW		3745-52-34		ACCUMULATION TIME OF HAZARDOUS WASTE	IDENTIFIES MAXIMUM TIME PERIODS THAT A GENERATOR MAY ACCUMULATE A HAZARDOUS WASTE WITHOUT BEING CONSIDERED AN OPERATOR OF A STORAGE FACILITY. ALSO ESTABLISHES STANDARDS FOR MANAGEMENT OF HAZARDOUS WASTES BY GENERATORS.
HW		3745-52-40	A-D	RECORDKEEPING REQUIREMENTS, THREE YEAR RETENTION	SPECIFIES RECORDS THAT SHALL BE KEPT FOR THREE YEARS
HW		3745-52-41	A,B	ANNUAL REPORT	REQUIRES GENERATORS TO PREPARE ANNUAL REPORT TO OEPA
HW		3745-54-13	A	GENERAL ANALYSIS OF HAZARDOUS WASTE	PRIOR TO ANY TREATMENT, STORAGE OR DISPOSAL OF HAZARDOUS WASTES, A REPRESENTATIVE SAMPLE OF THE WASTE MUST BE CHEMICALLY AND PHYSICALLY ANALYZED.
HW		3745-54-14	A,B,C	SECURITY FOR HAZARDOUS WASTE FACILITIES	HAZARDOUS WASTE FACILITIES MUST BE SECURED SO THAT UNAUTHORIZED AND UNKNOWING ENTRY ARE MINIMIZED OR
HW		3745-54-15	A,C	INSPECTION REQUIREMENTS FOR HAZARDOUS WASTE FACILITIES	HAZARDOUS WASTE FACILITIES MUST BE INSPECTED REGULARLY TO DETECT MALFUNCTIONS, DETERIORATIONS, OPERATIONAL ERRORS AND DISCHARGES. ANY MALFUNCTIONS OR DETERIORATIONS DETECTED SHALL BE REMEDIED EXPEDITIOUSLY.
HW		3745-54-16		PERSONNEL TRAINING	ESTABLISHES REQUIREMENTS FOR TRAINING OF PERSONNEL AT HAZARDOUS WASTE FACILITIES

HW		3745-55-19	B	NOTICE TO LOCAL LAND AUTHORITY	REQUIRES THAT A RECORD OF THE TYPE, LOCATION AND QUANTITY OF HAZARDOUS WASTES DISPOSED OF IN EACH UNIT BE SUBMITTED TO THE LOCAL LAND AUTHORITY AND THE DIRECTOR OF THE OHIO EPA. ALSO REQUIRES THAT A NOTATION TO THE DEED TO THE FACILITY PROPERTY BE MADE INDICATING THAT THE LAND WAS USED TO MANAGE HAZARDOUS WASTES AND THAT CERTAIN USE RESTRICTIONS MAY APPLY TO THE PROPERTY
HW		3745-55-91	A,B,D	ASSESSMENT OF EXISTING TANK SYSTEMS INTEGRITY	REQUIRES THAT EACH EXISTING TANK USED TO STORE OR TREAT HAZARDOUS WASTE THAT DOES NOT HAVE SECONDARY CONTAINMENT BE TESTED TO ASSURE TANK INTEGRITY.
HW		3745-55-92	A-G	DESIGN & INSTALLATION OF NEW TANK SYSTEMS OR COMPONENTS	REQUIRES A SECONDARY CONTAINMENT SYSTEM FOR TANKS AND ASSESSMENT TO DETERMINE TANK INTEGRITY.
HW		3745-55-93	A-G,I	CONTAINMENT AND DETECTION OF RELEASES FOR TANK SYSTEMS	REQUIRES SECONDARY CONTAINMENT AND LEAK DETECTION SYSTEMS FOR TANKS.
HW		3745-55-94	A,B,C	GENERAL OPERATING REQUIREMENTS FOR TANK SYSTEMS	SPECIFIES GENERAL OPERATING REQUIREMENTS FOR TANK SYSTEMS.
HW		3745-55-95	A-D	INSPECTIONS OF TANK SYSTEMS	REQUIRES INSPECTIONS AT LEAST ONCE EACH OPERATING DAY.
HW		3745-55-96	A,B,C,E	RESPONSE TO LEAKS OR SPILLS OF TANK SYSTEMS	REQUIRES THAT UNFIT TANKS BE REMOVED FROM USE AND FURTHER RELEASES BE PREVENTED.
HW		3745-55-97	A,B	CLOSURE AND POST-CLOSURE CARE FOR TANK SYSTEMS	SPECIFIES CLOSURE AND POST-CLOSURE REQUIREMENTS FOR TANK SYSTEMS.
HW		3745-57-03	A-I	LANDFILL DESIGN AND OPERATING REQUIREMENTS	PRESENTS DESIGN AND OPERATING REQUIREMENTS FOR LANDFILLS. INCLUDES LINER, LEACHATE COLLECTION AND REMOVAL, RUN-ON/RUN-OFF CONTROL, ETC.
HW		3745-57-05	A,B	MONITORING AND INSPECTIONS OF LANDFILLS	REQUIRES INSPECTION OF LANDFILLS DURING CONSTRUCTION OR INSTALLATION AND OPERATION.
HW		3745-57-09		SURVEYING AND RECORD KEEPING	ESTABLISHES REQUIREMENTS FOR SURVEYING AND RECORDING LOCATIONS AND CONTENTS OF CELLS

HW		3745-54-55		EMERGENCY COORDINATOR; HAZARDOUS WASTE FACILITIES	AT ALL TIMES THERE SHOULD BE AT LEAST ONE EMPLOYEE EITHER ON THE PREMISES OR ON CALL TO COORDINATE ALL EMERGENCY RESPONSE MEASURES.
HW		3745-54-56	A-I	EMERGENCY PROCEDURES; HAZARDOUS WASTE FACILITIES	SPECIFIES THE PROCEDURES TO BE FOLLOWED IN THE EVENT OF AN EMERGENCY.
HW		3745-54-73	A,B	OPERATING RECORD	SPECIFIES RECORDS TO BE KEPT AT TSD FACILITIES
HW		3745-54-77	A	ADDITIONAL REPORTS	REQUIRES FACILITIES TO REPORT FIRES, EXPLOSIONS OR OTHER MISHAPS
HW		3745-55-11	A,B,C	GENERAL CLOSURE PERFORMANCE STANDARD; HAZ WASTE FACIL	REQUIRES THAT ALL HAZARDOUS WASTE FACILITIES BE CLOSED IN A MANNER THAT MINIMIZES THE NEED FOR FURTHER MAINTENANCE, CONTROLS, MINIMIZES, ELIMINATES OR PREVENTS POST-CLOSURE ESCAPE OF HAZARDOUS WASTE, HAZARDOUS CONSTITUENTS, LEACHATE, CONTAMINATED RUN-OFF OR HAZARDOUS WASTE DECOMPOSITION PRODUCTS TO THE GROUND OR SURFACE WATER
HW		3745-55-12	B	CONTENT OF CLOSURE PLAN; HAZ WASTE FACILITIES	SPECIFIES THE MINIMUM INFORMATION REQUIRED IN A CLOSURE PLAN FOR OHIO EPA TO DETERMINE THE ADEQUACY OF THE PLAN.
HW		3745-55-14		DISPOSAL/ DECON OF EQUIPMENT, STRUCTURES & SOILS	REQUIRES THAT ALL CONTAMINATED EQUIPMENT, STRUCTURES AND SOILS BE PROPERLY DISPOSED OF OR DECONTAMINATED. REMOVAL OF HAZARDOUS WASTES OR CONSTITUENTS FROM A UNIT MAY CONSTITUTE GENERATION OF
HW		3745-55-17	B	POST-CLOSURE CARE AND USE OF PROPERTY	SPECIFIES THE POST-CLOSURE CARE REQUIREMENTS, INCLUDING MAINTENANCE, MONITORING AND POST-CLOSURE USE OF PROPERTY.
HW		3745-55-18	B	POST-CLOSURE PLAN	PRESENTS THE INFORMATION NECESSARY FOR OHIO EPA TO DETERMINE THE ADEQUACY OF A POST-CLOSURE PLAN.

HW		3745-57-10	A,B	LANDFILL CLOSURE AND POST-CLOSURE CARE	SPECIFIES CLOSURE AND POST-CLOSURE REQUIREMENTS FOR HAZARDOUS WASTE LANDFILLS. INCLUDES FINAL COVER AND MAINTENANCE.
HW		3745-57-74	A-K	STAGING PILES	DESIGN REQUIREMENTS FOR TEMPORARY WASTE STAGING PILES
HW		3745-66-11	A,B,C	CLOSURE PERFORMANCE STANDARD	OWNER SHALL CLOSE FACILITY IN MANNER THAT MINIMIZES NEED FOR FURTHER MAINTENANCE AND REDUCES OR ELIMINATES POLLUTION OF GROUND WATER, SURFACE WATER OR ATMOSPHERE.
DW		3745-81-11	A,B,C	MAXIMUM CONTAMINANT LEVELS FOR INORGANIC CHEMICALS	PRESENTS MAXIMUM CONTAMINANT LEVELS FOR INORGANICS.
DW		3745-81-12	A,B,C	MAXIMUM CONTAMINANT LEVELS FOR ORGANIC CHEMICALS	PRESENTS MCLS FOR ORGANICS.
GW		3745-9-03	A-C	MONITORING WELL	STANDARDS FOR DESIGN AND CLOSURE OF WELLS, COMPLIANCE WITH DDAGW GUIDANCE
GW		3745-9-05	A1,B-H	WELL CONSTRUCTION	SPECIFIES MINIMUM CONSTRUCTION REQUIREMENTS FOR NEW GROUND WATER WELLS IN REGARDS TO CASING MATERIAL, CASING DEPTH, POTABLE WATER, ANNULAR SPACES, USE OF DRIVE SHOE, OPENINGS TO
GW		3745-9-07	A-C	WELL GROUTING FOR CONSTRUCTION OF CLOSURE	ESTABLISHES SPECIFIC GROUTING PROCEDURES
GW		3745-9-10	A,B,C	ABANDONED WELL SEALING	PROCEDURES FOR CLOSING AND SEALING WELLS.

PERTAINS TO ANY SITE AT WHICH HAZARDOUS OR SOLID WASTE HAS COME TO BE LOCATED. CERTAIN ALTERNATIVES INCLUDE EXCAVATION ACTIVITIES WHICH MAY UNCOVER SOLID AND/OR HAZARDOUS WASTE. SHOULD THOSE ACTIVITIES REQUIRE THE MANAGEMENT OF SOLID/HAZARDOUS WASTES ON-SITE, AN EXEMPTION TO PERMITTING AND OTHER REQUIREMENTS MAY BE WARRANTED.																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE WILL BE MANAGED SUCH THAT AIR EMISSIONS MAY OCCUR. CONSIDER FOR SITES THAT WILL UNDERGO MOVEMENT OF EARTH OR INCINERATION.																	
PERTAINS TO ANY SITE AT WHICH SOLID WASTE HAS COME TO BE LOCATED OR WILL BE GENERATED DURING A REMEDIAL ACTION.																	
PERTAINS TO ANY SITE THAT MAY HAVE NOXIOUS SMELLS OR MAY OBSTRUCT WATERWAYS.																	
PERTAINS TO ALL SITES LOCATED ADJACENT TO LAKES, STREAMS, OR DRAINS.																	
CONSIDER FOR SITES WITH INSTITUTIONAL CONTROLS OR USE RESTRICTIONS																	
THIS STATUTE PERTAINS TO ANY SITE THAT MAY AFFECT A CONSTRUCTION WITHIN A CONSERVANCY DISTRICT.																	
PERTAINS TO ANY SITE WHICH HAS CONTAMINATED ON-SITE GROUND OR SURFACE WATER OR WILL HAVE A DISCHARGE TO ON-SITE SURFACE OR																	
PERTAINS TO ANY SITE WHICH HAS CONTAMINATED GROUND WATER OR SURFACE WATER OR WILL HAVE A DISCHARGE TO ON-SITE SURFACE OR GROUND																	
PERTAINS TO ANY SITE WHICH WILL HAVE A POINT SOURCE DISCHARGE.																	
PERTAINS TO REMEDIES THAT CREATE OR ALTER A DAM, DIKE OR LEVEE. CONSIDER FOR SITES WITH ON-SITE SURFACE WATER AND FOR SITES WITHIN A FLOODPLAIN.																	
PERTAINS TO REMEDIES THAT CREATE OR ALTER A DAM. CONSIDER FOR SITES WITH ON-SITE SURFACE WATER.																	

APPLICATION																	
CONSIDER FOR ANY ACTION THAT INCLUDES DREDGING OR ALTERING OF RIVERBANKS																	
APPLIES TO REMEDIATION SITES WHERE CHEMICALS MAY HARM ENDANGERED SPECIES. CLEARLY ESTABLISHES THAT RECEPTOR PLANT SPECIES MUST BE CONSIDERED IN RISK ASSESSMENTS. THIS ACT MAY REQUIRE CONSIDERATION OF ENDANGERED SPECIES IN REMEDIATIONS THAT INVOLVE MOVEMENT OR DISPLACEMENT OF LARGE VOLUMES OF SURFACE																	
THE SUBSTANTIVE REQUIREMENTS OF THIS SECTION PERTAIN TO REMEDIES THAT WILL CREATE OR ALTER A DAM, DIKE OR LEVEE. CONSIDER FOR SITES WITH ON-SITE SURFACE WATER AND FOR SITES WITHIN A FLOODPLAIN.																	
THE SUBSTANTIVE REQUIREMENTS OF THIS SECTION PERTAIN TO REMEDIES THAT WILL CREATE OR ALTER A DAM, DIKE OR LEVEE. CONSIDER FOR SITES WITH ON-SITE SURFACE WATER AND FOR SITES WITHIN A FLOODPLAIN.																	
APPLIES TO REMEDIATION SITES WHERE CHEMICALS MAY HARM ENDANGERED SPECIES. CLEARLY ESTABLISHES THAT RECEPTOR ANIMAL SPECIES MUST BE CONSIDERED IN RISK ASSESSMENTS. THIS ACT MAY REQUIRE CONSIDERATION OF ENDANGERED SPECIES IN REMEDIATIONS THAT INVOLVE MOVEMENT OR DISPLACEMENT OF LARGE VOLUMES OF SURFACE																	
MAY PERTAIN TO ANY SITE WHERE EMISSIONS OF AN AIR CONTAMINANT OCCURS EITHER AS A PRE-EXISTING CONDITION OF THE SITE OR AS A RESULT OF REMEDIAL ACTIVITIES. SHOULD BE CONSIDERED FOR VIRTUALLY ALL SITES THAT REQUIRE THE MANAGEMENT OF SOLID/HAZARDOUS WASTES.																	

APPLIED AS A TERM OF DISCHARGE PERMIT TO INSTALL (PTI). WOULD PERTAIN TO AN ALTERNATIVE WHICH RESULTED IN A POINT SOURCE DISCHARGE.																	
PERTINENT IF STREAM OR STREAM SEGMENT IS ON-SITE AND IS EITHER AFFECTED BY SITE CONDITIONS OF IF REMEDY INCLUDES DIRECT DISCHARGE. USED BY DSW TO ESTABLISH WASTE LOAD ALLOCATIONS																	
PERTINENT IF STREAM OR STREAM SEGMENT IS ON-SITE AND IS EITHER AFFECTED BY SITE CONDITIONS OF IF REMEDY INCLUDES DIRECT DISCHARGE. USED BY DSW TO ESTABLISH WASTE LOAD ALLOCATIONS																	
PERTAINS TO ANY SITE WHICH UTILIZES OR WILL UTILIZE AIR POLLUTION CONTROL EQUIPMENT ON-																	
PERTAINS TO ANY SITE WHICH UTILIZES OR WILL UTILIZE AIR POLLUTION CONTROL EQUIPMENT ON-SITE.																	
PERTAINS TO ANY SITE WHICH CAUSES, OR MAY REASONABLY CAUSE, AIR POLLUTION NUISANCES. CONSIDER FOR SITES THAT WILL UNDERGO EXCAVATION, DEMOLITION, CAP INSTALLATION, METHANE PRODUCTION, CLEARING AND GRUBBING, WATER TREATMENT, INCINERATION AND WASTE FUEL RECOVERY.																	
PERTAINS TO SITES WHICH MAY HAVE FUGITIVE EMISSIONS (NON-STACK) OF DUST. CONSIDER FOR SITES THAT WILL UNDERGO GRADING, LOADING OPERATIONS, DEMOLITION, CLEARING AND GRUBBING AND CONSTRUCTION UTILIZE INCINERATION OR FUEL RECOVERY (WASTE FUEL RECOVERY)																	
PERTAINS TO SITES WITHIN A RESTRICTED AREA (WITHIN THE BOUNDARY OF A MUNICIPALITY AND A ZONE EXTENDING BEYOND SUCH MUNICIPALITY).																	
PERTAINS TO ANY SITE WITH TREATMENT SYSTEMS THAT EMIT VOLATILE ORGANIC COMPOUNDS, INCLUDING THOSE WITH THERMAL DESORPTION AND																	
CONSIDER FOR REMEDIAL OPTIONS INCLUDING LAND DISPOSAL OR LEAVING WASTES IN-PLACE																	
CONSIDER FOR SITES AT WHICH WASTES ARE GENERATED, STORED, DISPOSED, OR TREATED																	

PERTAINS TO REMEDIES THAT CREATE OR ALTER A DIKE OR LEVEE. CONSIDER FOR SITES WITHIN A FLOODPLAIN.																	
PERTAINS TO REMEDIES THAT CREATE OR ALTER A DAM, DIKE OR LEVEE. CONSIDER FOR SITES WITH ON-SITE SURFACE WATER AND FOR SITES WITHIN A FLOODPLAIN.																	
PERTAINS TO REMEDIES THAT CREATE OR ALTER A DAM, DIKE OR LEVEE. CONSIDER FOR SITES WITH ON-SITE SURFACE WATER AND FOR SITES WITHIN A FLOODPLAIN.																	
PERTAINS TO REMEDIES THAT CREATE OR ALTER A DAM, DIKE OR LEVEE. CONSIDER FOR SITES WITH ON-SITE SURFACE WATER AND FOR SITES WITHIN A FLOODPLAIN.																	
MAY APPLY TO REMEDIATION SITES WHERE LISTED SPECIES ARE THREATENED BY CHEMICAL RELEASES. MAY ALSO APPLY AT SITES WHERE REMEDIAL ACTIVITIES COULD DISTURB EXISTING HABITATS.																	
MAY APPLY AT REMEDIATION SITES WHERE CHEMICAL RELEASE THREATENS LISTED SPECIES. SHOULD ALSO BE CONSIDERED WHERE REMEDIAL ACTIVITIES MAY DISRUPT HABITATS.																	
PERTAINS TO BOTH DISCHARGES TO SURFACE WATERS AS A RESULT OF REMEDIATION AND ANY ON-SITE SURFACE WATERS AFFECTED BY SITE																	
PERTAINS TO BOTH DISCHARGES TO SURFACE WATERS AS A RESULT OF REMEDIATION AND ANY ON-SITE SURFACE WATERS AFFECTED BY SITE CONDITIONS.																	
REQUIRES THAT BEST AVAILABLE TECHNOLOGY (BAT) BE USED TO TREAT SURFACE WATER DISCHARGES. DWQPA USES THIS RULE TO SET STANDARDS WHEN EXISTING WATER QUALITY IS BETTER THAN THE DESIGNATED USE.																	

CONSIDER FOR STIES THAT GENERATE CHARACTERISTIC WASTES																	
CONSIDER FOR SITES THAT GENERATE WASTES OR WITH WASTES DISPOSED ON-SITE																	
CONSIDER AT ALL SITES GENERATING WASTES OR WITH ON-SITE DISPOSAL																	
CONSIDER FOR SITES WITH CONTAMINATION BY DEBRIS.																	
CONSIDER FOR SITES WITH WASTE GENERATION OR ON-SITE DISPOSAL																	
CONSIDER AT SITES WHERE CONTAMINATED SOILS ARE GENERATED																	
CONSIDER FOR SITES WITH DISCHARGES TO POTW.																	
CONSIDER FOR SITES WITH POTENTIAL FOR AIR EMISSIONS, INCLUDING SITES WITH SOIL VAPOR EXTRACTION, THERMAL DESORPTION, INCINERATION OR OTHER TREATMENT TECHNOLOGIES WITH AIR																	
PERTAINS TO ANY SITE THAT HAS OR WILL AFFECT WATERS OF THE STATE.																	
PERTAINS TO SITES AT WHICH MATERIALS ARE TO BE INJECTED UNDERGROUND. CONSIDER FOR TECHNOLOGIES SUCH AS BIOREMEDIATION AND SOIL FLUSHING.																	
PERTAINS TO SITES AT WHICH MATERIALS ARE TO BE INJECTED UNDERGROUND. CONSIDER FOR TECHNOLOGIES SUCH AS BIOREMEDIATION AND SOIL FLUSHING.																	
PERTAINS TO SITES AT WHICH MATERIALS ARE TO BE INJECTED UNDERGROUND. CONSIDER FOR TECHNOLOGIES SUCH AS BIOREMEDIATION AND SOIL FLUSHING.																	
PERTAINS TO SITES AT WHICH MATERIALS ARE TO BE INJECTED UNDERGROUND. CONSIDER FOR TECHNOLOGIES SUCH AS BIOREMEDIATION AND SOIL FLUSHING.																	

PERTAINS TO SITES AT WHICH MATERIALS ARE TO BE INJECTED UNDERGROUND. CONSIDER FOR TECHNOLOGIES SUCH AS BIOREMEDIATION AND SOIL FLUSHING.																	
PERTAINS TO ANY SITE WHICH WILL HAVE TREATMENT, STORAGE OR DISPOSAL OF HAZARDOUS WASTE OCCURRING ON-SITE OR HAS EXISTING AREAS OF HAZARDOUS WASTE CONTAMINATION ON-SITE THAT WILL BE CAPPED IN-PLACE. THIS, ALONG WITH OTHER PARAGRAPHS OF THIS RULE, ESTABLISHES THE MINIMUM INFORMATION REQUIRED DURING THE REMEDIAL DESIGN STAGE. CORRECTIVE ACTION FOR WASTE MANAGEMENT UNITS																	
PERTAINS TO ANY FACILITY/SITE WHICH WILL HAVE HAZARDOUS WASTE DISPOSED OF ON-SITE OR HAS EXISTING AREAS OF HAZARDOUS WASTE CONTAMINATION ON-SITE THAT WILL BE CAPPED IN-PLACE. THIS, ALONG WITH OTHER PARAGRAPHS OF THIS RULE, ESTABLISHES THE MINIMUM INFORMATION REQUIRED DURING THE REMEDIAL DESIGN STAGE.																	
PERTAINS TO ALL ALTERNATIVES THAT WILL INCORPORATE TREATMENT, STORAGE OR DISPOSAL OF HAZARDOUS WASTE.																	
PERTAINS TO SITES AT WHICH WASTES OF ANY TYPE (BOTH SOLID AND HAZARDOUS) ARE LOCATED.																	
PERTAINS TO SITES WHERE HAZARDOUS WASTE WILL BE TRANSPORTED OFF-SITE FOR TREATMENT, STORAGE OR DISPOSAL																	
PERTAINS TO SITES WHERE HAZARDOUS WASTE WILL BE TRANSPORTED OFF-SITE FOR TREATMENT, STORAGE OR DISPOSAL																	
PERTAINS TO SITES WHERE HAZARDOUS WASTE WILL BE TRANSPORTED OFF-SITE FOR TREATMENT, STORAGE OR DISPOSAL																	

PERTAINS TO SITES WHERE HAZARDOUS WASTE WILL BE TRANSPORTED OFF-SITE FOR TREATMENT, STORAGE OR DISPOSAL																	
PERTAINS TO ANY SITE WHERE HAZARDOUS WASTE WILL BE GENERATED BY ON-SITE ACTIVITIES AND SHIPPED OFF-SITE FOR TREATMENT AND/OR																	
PERTAINS TO ANY SITE WHERE HAZARDOUS WASTE WILL BE GENERATED BY ON-SITE ACTIVITIES AND SHIPPED OFF-SITE FOR TREATMENT AND/OR																	
PERTAINS TO ANY SITE WHERE HAZARDOUS WASTE WILL BE GENERATED BY ON-SITE ACTIVITIES AND SHIPPED OFF-SITE FOR TREATMENT AND/OR																	
PERTAINS TO ANY SITE WHERE HAZARDOUS WASTE WILL BE GENERATED BY ON-SITE ACTIVITIES AND SHIPPED OFF-SITE FOR TREATMENT AND/OR																	
PERTAINS TO A SITE WHERE HAZARDOUS WASTE WILL BE GENERATED AS A RESULT OF THE REMEDIAL ACTIVITIES.																	
CONSIDER FOR SITES AT WHICH HAZARDOUS WASTES ARE GENERATED																	
APPLICABLE AT SITES GENERATING WASTES FOR OFF--SITE SHIPMENT																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	

PERTAINS TO ANY SITE AT WHICH HAZARDOUS IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF). SPECIFICATIONS																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF)																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	

PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN DISPOSED OF).																	
CONSIDER FOR SITES WITH ON-SITE TREATMENT, STORAGE OR DISPOSAL																	
CONSIDER AT SITES WITH TREATMENT, STORAGE OR DISPOSAL ON-SITE																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN TREATED, STORED OR DISPOSED OF).																	
SUBSTANTIVE REQUIREMENTS PERTAIN TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN TREATED, STORED OR DISPOSED OF).																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE IS TO BE TREATED, STORED OR DISPOSED OF (OR HAS BEEN TREATED, STORED OR DISPOSED OF).																	
PERTAINS TO ALL SITES WITH LAND-BASED HAZARDOUS WASTE UNITS (LANDFILLS AND SURFACE IMPOUNDMENTS, WASTE PILES, LAND TREATMENT UNITS AND TANKS THAT MEET REQUIREMENTS OF LANDFILLS AFTER CLOSURE). THIS INCLUDES EXISTING LAND-BASED AREAS OF CONTAMINATION																	
PERTAINS TO ALL SITES WITH LAND-BASED HAZARDOUS WASTE UNITS (LANDFILLS AND SURFACE IMPOUNDMENTS, WASTE PILES, LAND TREATMENT UNITS AND TANKS THAT MEET REQUIREMENTS OF LANDFILLS AFTER CLOSURE). THIS INCLUDES EXISTING LAND-BASED AREAS OF CONTAMINATION																	

PERTAINS TO ALL SITES WITH LAND-BASED HAZARDOUS WASTE UNITS (LANDFILLS AND SURFACE IMPOUNDMENTS, WASTE PILES, LAND TREATMENT UNITS AND TANKS THAT MEET REQUIREMENTS OF LANDFILLS AFTER CLOSURE). THIS INCLUDES EXISTING LAND-BASED AREAS OF CONTAMINATION.																	
PERTAINS TO ANY SITE WHICH HAS EXISTING HAZARDOUS WASTE TREATMENT OR STORAGE TANKS THAT LACK SECONDARY CONTAINMENT.																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE WILL BE EITHER STORED OR TREATED IN TANKS.																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE WILL BE EITHER STORED OR TREATED IN																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE WILL BE EITHER STORED OR TREATED IN																	
PERTAINS TO ANY SITE AT WHICH HAZARDOUS WASTE WILL BE EITHER STORED OR TREATED IN																	
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PERTAINS TO ALL SITES AT WHICH A HAZARDOUS WASTE LANDFILL WILL EITHER BE LOCATED OR AN EXISTING LANDFILL WILL BE EXPANDED. THIS RULE ALSO PERTAINS TO EXISTING LAND-BASED AREAS OF CONTAMINATION.																	
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PERTAINS TO REMEDIAL SITE WHERE WASTE WILL BE TEMPORARILY STORED IN PILES																	
CONSIDER FOR REMEDIAL PLANS THAT MAY REQUIRE EXTENDED OPERATION AND MAINTENANCE OF EQUIPMENT. CONSIDER ALTERNATIVES WITH LESS LONG-TERM O&M. APPLICABLE FOR RCRA FACILITIES, APPROPRIATE AND RELEVANT FOR OTHER SITES.																	
PERTAINS TO ANY SITE WHICH HAS CONTAMINATED GROUND OR SURFACE WATER THAT IS EITHER BEING USED, OR HAS THE POTENTIAL FOR USE, AS A DRINKING WATER SOURCE.																	
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